

WHAT IS CLAIMED IS:

[c1]

*Sub
a¹ y*

A pretensioner for increasing the restraint force of a seat belt on an occupant comprising:

a connecting member connected to a piston, the piston being configured to be moved by pressure of gas generated by a gas generator,

a bent tubular member comprising a linear sliding portion in which the piston is slidably fitted and a gas-generator accommodating portion in which said gas generator is accommodated; and

wherein the connecting member is operatively connected to the seat belt so that when the piston moves the connecting member pulls the seat belt.

[c2]

The pretensioner of claim 1, wherein the gas-generator accommodating portion is acutely bent with respect to said piston sliding portion so as to extend toward said piston sliding portion.

[c3]

The pretensioner of claim 1, wherein the gas-generator accommodating portion is obtusely bent with respect to said piston sliding portion so as to extend toward the side opposite from said piston sliding portion.

[c4]

The pretensioner of claim 1, wherein the gas-generator accommodating portion is bent at right angles to said sliding portion.

[c5]

The pretensioner of claim 1, wherein the gas-generator accommodating portion extends in parallel with said piston sliding portion and toward the side opposite from said piston sliding portion so as not to be coaxial with said piston sliding portion.

[c6]

The pretensioner of claim 1, wherein the gas-generator accommodating portion or extends in parallel with said piston sliding portion and toward said piston sliding portion.

[c7]

The pretensioner of claim 1, wherein the tubular member includes a hole bored coaxially with said piston, the connecting member being positioned to pass through the hole.

[c8]

The pretensioner of claim 1, wherein the connecting member is connected to a

~~seat belt buckle.~~

- [c9] The pretensioner of claim 1, wherein movement of the piston within the linear sliding portion is limited to a single direction.
- [c10] A pretensioner for increasing the restraining force of a seat belt on an occupant comprising:
a tubular member;
a piston slidably positioned within the tubular member;
wherein the piston is connected to a wire operatively connected to the seat belt so that when the piston is moves due to gas pressure generated by a gas generator, the seat belt is pulled to thereby increase the restraining force on the occupant;
wherein the gas generator is accommodated within the tubular member; and
wherein the tubular member is bent so that the gas generator is located offset from the axis of movement of the piston.
- [c11] The pretensioner of claim 10, wherein the tubular member includes a hole through which the wire passes, the hole being located between the piston and the gas generator.
- [c12] The pretensioner of claim 10, wherein movement of the piston is limited to a single direction.
- [c13] The pretensioner of claim 12, wherein the piston includes a plurality of balls that are forced against an inner surface of the tubular member when the piston is forced in a direction opposite to the single direction.
- [c14] The pretensioner of claim 13, wherein the piston includes an inclined surface that forces the balls against the inner surface of the tubular member.